

WHAT IS CLAIMED IS:

1. Cutting tool (1) with a cutting insert (3), on the front edge (14) of which there is a first major cutting edge (15) and an approximately U-shaped indentation (18) which interrupts said first major cutting edge (15), whereby the side legs (19, 20) of the indentation (18) each form a secondary cutting edge, and the base (21) of the indentation (18) forms a second major cutting edge (22) which is offset in the feed direction (V) behind the first major cutting edge 15, and whereby the cutting insert (3) is formed by at least two separate sections (4a, 4b), each of which carries a part of the indentation (18).

2. Cutting tool as claimed in Claim 1, characterized by the fact that the first major cutting edge (15) forms an acute angle with the respective adjacent side leg (19, 20).

3. Cutting tool as claimed in either Claim 1 or 2, characterized by the fact that the first major cutting edge (15) forms a straight line that is oriented perpendicular to the feed direction (V).

4. Cutting tool as claimed in one of the Claims 1 to 3, characterized by the fact that the second major cutting edge (22) runs approximately parallel to the first major cutting edge (15).

5. Cutting tool as claimed in one of the Claims 1 to 4, characterized by the fact that each section (4) has parallel lateral edges (11, 13).

6. Cutting tool as claimed in Claim 5, characterized by the fact that the lateral edges (11, 13) are oriented at an acute angle with respect to the feed direction (V).

7. Cutting tool as claimed in one of the Claims 1 to 6, characterized by the fact that each section (4) has a rear edge (6) that is approximately perpendicular to the feed direction (V).

8. Cutting tool as claimed in one of the Claims 1 to 7, characterized by the fact that a first section (4b) carries one side leg (20) of the indentation (18), and that a second section (4a) carries the base (21) and the other side leg (19) of the indentation (18).

9. Cutting tool as claimed in one of the Claims 1 to 8, characterized by the fact that the sections (4a, 4b) are identical to each other.

10. Cutting tool as claimed in one of the Claims 1 to 9, characterized by at least one section (4) with a base surface that is centrically symmetrical with respect to its surface midpoint (25).

11. Cutting tool as claimed in one of the Claims 1 to 10,

characterized by a tool holder (2) which has a contact surface (5) for the cutting insert (3), a rear stop (7) which interacts with the rear edge (6) of the cutting insert (3) and a lateral stop (10) that interacts with one lateral edge (11a) of the cutting insert (3).

12. Cutting tool as claimed in one of the Claims 1 to 11, characterized by the fact that the cutting insert (3) is held on the tool holder (2) by means of screw fasteners.

13. Cutting tool as claimed in one of the Claims 1 to 11, characterized by the fact that the cutting insert (3) is held on the tool holder by a clamping bracket.

14. Cutting tool as claimed in Claim 13, characterized by the fact that the clamping bracket (32) or each of the clamping brackets (32) is realized so that unused cutting edges (23a', 24a', 23b', 23b) of the cutting insert (3) are covered by the clamping bracket (32).

15. A method of machining a piston ring from an uncut workpiece using a cutting arrangement, said cutting arrangement comprising a cutting insert, said cutting insert comprising two first major cutting edges separated by an indentation, said cutting insert comprising a second major cutting edge disposed at the bottom of said indentation and substantially parallel to said first major cutting

edges, said cutting insert comprising two secondary cutting edges disposed opposite one another on the sides of said indentation to connect said first and second major cutting edges, said two secondary cutting edges being disposed to form an acute angle with said second major cutting edge, said method comprising the steps of:

supplying said workpiece via a supply feed mechanism from a supply to a holding arrangement for receiving, holding, and rotating said workpiece;

holding said workpiece in said holding arrangement;

positioning said workpiece adjacent said cutting arrangement such that a central rotational axis of said workpiece is essentially parallel to said first major cutting edges;

activating a drive mechanism to rotate said holding arrangement;

advancing said cutting insert toward said workpiece;

cutting with said first major cutting edges on both sides of said workpiece to remove material from both sides of said workpiece to produce a projecting ring on the perimeter of said workpiece to machine said workpiece into said piston ring;

continuing advancing said cutting insert further toward said workpiece until the perimeter of said projecting ring contacts and is

cut by said second major cutting edge;

moving said cutting insert away from said workpiece to substantially simultaneously perform a finishing cut with said secondary cutting edges to finish machining said workpiece into said piston ring;

moving said cutting insert away from and out of engagement with said piston ring; and

transporting said finished piston ring via an exit feed mechanism to a storage area.